Modern Dentistry for the Laity

THIRD EDITION

BY

ALFRED A. CROCKER

Modern Dentistry for the Laity

and

Industrial Dentistry for the Corporation, Modern Preventive Dentistry and Industrial Welfare Dentistry

By

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Cincinnati, Ohio

1920

THIRD EDITION

Published by

THE DENTAL REGISTER

THE MAGAZINE OF DENTISTRY

Founded 1847

PIONEER DENTAL JOURNAL OF THE UNITED STATES

Cincinnati, Ohio

First Edition
Copyrighted, July, 1918
By THE SAM'L A. CROCKER CO.
Ohio Dental and Surgical Depot
Cincinnati, Ohio

Second Edition
Copyrighted, February, 1919
By THE SAM'L A. CROCKER CO.
Ohio Dental and Surgical Depot
Cincinnati, Ohio

Third Edition
Copyrighted, January, 1920
By THE SAM'L A. CROCKER CO.
Ohio Dental and Surgical Depot
Cincinnati, Ohio

DEDICATED to the Dental Profession, whose avowed purpose is the prevention of decay and preservation of the teeth of the human race

PERIODICAL care of the teeth by a dentist is prophylaxis. It is painless without anaesthetics. Dentistry by necessity at periods of pain results in oral surgical operations which without anaesthetics are painful.

PREFACE TO THIRD EDITION

It is indeed complimentary to the subject of dentistry that there would be a demand for a third edition of this book, and, of course, it is a pleasure to respond to such a pleased body of readers. The interest shown in this work has been pronounced, and it is hoped that this third edition will meet with the same insatiable demand. The program is strictly an educational one, educating and informing on a subject which has for far too long been dormant, but now that the author has found the way to properly present the subject for public

consumption the response indicates that a popular chord has been struck and everybody is whistling the sweet music.

Some of the essays of former editions have been left out and replaced with more recently published articles. One of the fundamental doctrines of the circulatory system, that it conveys health or illness, sees its vindication in preventive dentistry. Toxins carried from the lower bowel, causing toxemias of colds and grip, are also carried from abscessed teeth, causing colds and rheumatism. The former fact has for a long time been popularly understood by the laity and to-day the later fact about the

teeth being foci of infection is being popularly accepted by the laity too. This volume, along with the two previous editions, is gratefully dedicated to the dental profession, without whose efforts for research in dental matters many facts now known would still be mysteries.

ALFRED A. CROCKER.

January, 1920.

PREFACE TO SECOND EDITION

Much information and valuable knowledge is to be found if one will spend the time to dig it up. To dig it up and then place it before those most interested to know it is indeed a valuable work.

The importance of Dentistry as a health profession has been greatly increased by the emphasis given the subject of Preventive Dentistry and Oral Hygiene during the war. The proving up of various relationships of systemic disease to oral sepsis has also hastened the necessity of bringing the care of the teeth promi-

nently before the American public. The care of the teeth of children as featured in municipal free dental clinics is a great educational work calculated to bring in a new generation, well informed on the importance of care of their teeth.

The laity at large would do well to take cognizance of the significance of children's clinics, for what is good for the coming generations is good for the present one. A clean and healthy set of teeth makes a bright scholar, likewise a clean and healthy set of teeth makes a successful grown-up. This subject is one of the principal features of general attractiveness.

Preface

In publishing this second edition MODERN DENTISTRY FOR THE LAITY AND INDUSTRIAL DENTISTRY FOR THE CORPORATION the writer has sincere hopes that this pamphlet will help the educational contributions of others and bring the gospel of Tooth Hygiene to everybody, both young and old.

The similarity, in some instances, of these several essays, is on account of their having been written to cover the subject as a synopsis to suit various prominent magazines in which they were published. It being the idea to make each essay cover some of the important ground and be in itself an argument. However, each one has a pro-

gressive addition of new ideas which occurred to the writer as the subject progressed. The essay "Tooth Troubles," gives an idea of what prevention prevents. For those interested in establishing clinics a list of actual requirements is given in the last chapter.

ALFRED A. CROCKER.

January, 1919.

PREFACE TO FIRST EDITION

In writing these short essays on dentistry and its application to the individual welfare it has been the writer's intention to point out how decay of the teeth is the prime factor in the ultimate loss of the teeth and also how this destructive cause can be prevented. Caries, the technical dental term used meaning decay of the tooth structure, has been a prime subject of dentistry and has received immense attention by the dental profession. The investigator who isolated the germ of caries, the late Dr. W. D. Miller, an American, spent years on this subject and we have as a result a sure method of preventative dentistry. It is to

detect the decay. This can only be done by a dentist. The operation of detecting decay is known as prophylaxis. The first monument ever erected to a man of the dental profession was erected on the spacious campus of the Ohio State University to the memory of Dr. W. D. Miller. This statue of Dr. Miller stands in a very prominent position of the grounds of Ohio's largest university. From this you will infer the importance and intimate meaning of this subject of decay to humanity. To explain this subject and its application to every-day efficiency this pamphlet is written.

ALFRED A. CROCKER.

June, 1918.

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Modern Dentistry

PREVENTIVE DENTISTRY

The Zero System and Efficiency Dentistry Tooth Insurance—Decay Proofing.

The idea to follow in regard to your teeth is prevention of decay. Decay is constantly starting its destructive process, and by the use of the tooth brush and antiseptics is partially counteracted, but it takes periodical examination by a dentist to keep the teeth in perfect condition and to detect the decay before it gets a start toward the certain destruction of the teeth. By periodical

prophylaxis, cleaning and examination of the teeth the dentist performs a work which will save your teeth in their original perfect condition, or if you are just starting with the periodical prophylaxis, the dentist will be able to preserve your teeth in as good condition as they are now or will be after he once gets them again in perfect condition. Efficiency dentistry by the zero system means preservation of the teeth, reducing the decay to the minimum or zero point, and maintaining your energy at a maximum. It also means minimizing tooth difficulties, preserving the teeth in as near their pristine perfection as is possible and making

the necessary fillings, inlays or restorations approach the zero point. Patients who have heeded the principles of this system of periodical examination by their dentist have very few filled teeth, and where there is a filling it is a very small one. This is because the decay was caught by the dentist at a periodical examination before it had caused very much damage. A small pin point filling was all that was necessary. Had such a decay been allowed to run until the tooth ached, the whole crown of the tooth might have had to be filled or the tooth may have had to be extracted.

The attention to the teeth is not a vogue of society nor an

effort *per se* to maintain good appearance. While dentistry has a feature of esthetics, its larger, its main demand is necessity. There has been evolved through the fifty odd years of the development of the present practice of dentistry by the dental profession the system now termed Efficiency Dentistry. A patient can, by periodical visits to the dentist, minimize the decay of the teeth approaching the zero point. The dentist at each periodical visit of the patient examines the teeth and detects any unsoundness, and if a cavity is found, a filling is made. Such a discovery is, of course, made long before the decay would be advanced enough

to cause the patient to notice it by any pain. Sometimes a patient, when a small cavity is starting, complains of lassitude and lack of energy, but of course does not attribute it to a small cavity in a tooth, for at this stage the cavity is small and often between the teeth and not observable except to a dentist, and not possible to locate it with the tongue. Besides, the average patient does not complain until a tooth aches, and, of course, by that time the decay has reached the sensitive nerve pulp. During the development of a decaying tooth, from the time of the first infinitesimal pit until it has enlarged and deepened until it

starts to ache, there is a sapping of the patient's energy and an increasing condition of debility is developed, until the ache and pain in the tooth announce to the patient the true cause. By following the Zero System of fillings by adhering to Efficiency Dentistry, the decay is discovered by the dentist long before it reaches the climax in the aching tooth, and consequently the fillings are very small and the teeth remain strong and vigorous.

Patients who have, upon advice of their dentist, faithfully followed this principle of Efficiency Dentistry, have very few filled teeth and have never had a toothache. They have likewise always

been at high nerve force so far as their teeth are concerned. The dentist eventually gets the patient, but what about the energy and health of the patient in the meantime? The dentist is consulted so late and the decay has gone so far that it means a large filling, a withdrawal of the tooth, restoration of some kind, an artificial tooth, crown or bridgework. This calamity is all saved by Efficiency Dentistry, and the nerve energy for work or pleasure also conserved. Let your dentist put your name on his list of patients for periodical prophylaxis, with a full understanding of the principles involved. When you are in possession of the facts regarding

the advantages of periodical prophylaxis by the dentist as outlined in this article, you are in position to apply the logic of it for yourself.

Efficiency Dentistry by Zero System through periodical prophylaxis by your dentist is your tooth insurance. Efficiency Dentistry decay-proofs your teeth. Decay-proof your teeth now so you will not have a "toothless day."

CORPORATION DENTAL SERVICE

During the war while all available time for essential manufacturing was needed and all operatives were needed in good physical condition, particular attention was paid by welfare committees of the various war industries in studying the upkeep of human energy. The United States Army and Navy plan was followed as closely as possible, and this resulted in the establishment of dental prophylaxis (means detection of decay), together with the regular medical attention given operatives. The human health and

energy has an intimate relation to and dependence upon good teeth, more so than the majority of people realize, and it is for this reason that the medical staff of the United States Army and Navy required dental preparation of recruits before entering the service, and afterward required periodical attendance at the Army and Navy dental offices for dental upkeep, called prophylaxis. It was found that by preventing decay, which is continually starting, the teeth could be saved, the nutrition maintained, systemic diseases avoided, as the teeth and gums are one of the three foci of infection, the other two being the nose and throat or

tonsils. Manufacturing companies which use this system find that at least three hours a year is saved on every operative, and in some factories the number of hours is much greater. This means three thousand hours if one thousand operatives are employed. One company making air planes saved 21,031 hours in six months operating four thousand people. Factories today are generally far out of the city, and a trip to the dentist means loss of much time. To have a dentist for several hours each week, at stated times, at the factory, eliminates this waste of time, keeps the operatives at their work, preserves the health, and

makes excuse for tooth troubles unnecessary.

Only a superficial understanding of the relation of improper teeth to systemic disorders, or as it is technically stated, Oral Septis in its Relation to Systemic Disease, is necessary to appreciate what dental service in manufacturing corporations can do toward maintaining efficiency of workers, both clerical and technical. Welfare programs have always included medical service and rest rooms, athletics, libraries, social meetings, wholesome noon lunches. Some plants have gone into summer picnics, boat rides, roof gardens and billiard rooms. All these have their place.

In dentistry there is a practical benefit which is generally appreciated only when it is too late to derive the great good that it can render if it can only render it in time. Dental troubles fall into a class which can by prevention be entirely avoided. An aching tooth is notice that it is too late for a dentist to save it, not that it is time to go to the dentist to save it. It is for this reason that where people are called into a dental room and a dentist makes an examination detecting the decay, if any, and making the then small filling, the tooth can be saved and the ache avoided. Not only this, but the health is conserved. While a tooth is decaying it does

not ache, but absorbes energy from the system and poisons the blood, in both ways lowering the vitality of the patient. A great deal can be said right here, but only enough is possible in a short explanation of corporation dental service to start interest in this direction. Companies using dental attention in their welfare work report gratifying results of the work. There is a difference between doing dental work where work is needed and doing dental prevention. It is the dental prevention that interests the corporation dental clinician. He is not there to put the teeth of operatives in order and do a a whole lot of bridge work and filling.

His work is to indicate what work they need done and to advise them to have their family dentist do it, and see that it is done, checking it up when completed. After that the periodical upkeep by him will maintain tooth health. French and English factories took up this subject following the example of the French and English Armies, and have derived much good from it during the war. Some companies had the dental service in operation some years before the war. Here in the United States there are ninety-nine corporations using dental service at the present time. Their lines of activity cover meat packing, cork, statistics, worsted, op-

tical, telephone, milling machine, toilet requisites, iron, coal, steel, ammunition, air planes, matches, women's wear, department stores, rubber tires, tooth brushes, automobile, rubber sundries, men's clothing, pickles, preserves, harvesting machinery, life insurance, mail order houses, abattoir, cash registers and dental instruments and equipment.

Corporations installing dental service for operatives are taking a step for economy in manufacturing, conservancy of manufacturing hours, maintenance of health of operatives. They are filling a gap that exists without it, as medical service alone does not remove the cause of the multitu-

dinous systemic disorders which are due to tooth neglect.

Corporations which have installed dental service find that it increases the attendance at work, increases the output by the amount of hours saved, maintains health, improves mental alertness, raises the character, rounds out their welfare work, helps their educational programs, makes their recreative work more consistent. For these reasons industrial managers and welfare experts are paying more attention to the subject of corporation dental service.

EVIDENCE OF THE VALUE OF PREVENTATIVE DENTISTRY TO INDUSTRIAL CORPORATIONS

In my work of presenting the subject of Preventative Dentistry to manufacturing corporations, various industrial and trade magazines have accepted my articles, believing in the fundamental benefits of good dental advice to humanity, although the subject of dentistry is foreign to the general subject and class of trade to which their magazines are devoted. The regular dental publications which are read mostly, and I might say

almost exclusively, by the dental profession and trade have been filled for years with the subject of Preventative Dentistry, and the wish has often been expressed that its benefits to public health be brought to the knowledge of the public.

Industrial managers, all over the country are interested in the subject, and you will find it as one of the principal items of welfare work as outlined by the National Safety Council, of which Dr. L. A. Shoudy, Chief Surgeon, Bethlehem Steel Company, South Bethlehem, Pennsylvania, is chairman.

In reply to my questionnaire to various companies using the den-

tal service system the following replies have been received:

THE JOSEPH & FEISS CO., Cleveland, say:

While it is difficult to trace the definite results of benefit obtained from this work we feel convinced after six years' experience that it should be classed along with medicine and surgery in first aid work.

I am not able to answer questions as to the relative importance of dentistry and medicine. We are convinced without drawing any comparison that dentistry, medicine and eye work form an essential and profitable part of our work and are all of them a tremendous aid in the development of steady and efficient men and women.

Sincerely yours,

EJ:FY ERNEST JOSEPH.

ARMOUR & Co., Chicago, say:

We would advise you that we have had our dental work going such a short

time, we are unable to draw any conclusions as to the effect of this work upon efficiency, lost time or quality of finished product. We feel that, in principle, this department should have an influence on all of these items, but as yet, we have been unable to ascertain just what it is. The results of the Dental Department are more or less intangible and are similar to welfare and medical work,—in that they increase the morale and loyalty and efficiency of employees, all of which are extremely beneficial to any employer of labor.

It has been our aim, for the present at least, to make our Dental Department more educational than anything else, and if we succeed in teaching our people the value of caring for their teeth, we shall feel that the department has been a success. We can say, confidently that it is our belief that the Dental Department is an institution with us which will remain.

Yours very truly,

ARMOUR & CO.,

HGE:GA *H. G. Ellerd.*

THE DAYTON METAL PRODUCTS CO., Dayton, say:

It encourages us to know that many other large industries are interested in this comparatively new branch of welfare work, which is of such vital importance at this time. They have awakened to the fact that there is a very close connection between Mouth Infection and Systemic Diseases, that good teeth means good health, and good health means efficiency.

There never was a time in the history of our country when it was so necessary to bend every effort toward the maintenance of human efficiency than at present.

This work has saved us 21,031 hours so far this year.

Yours very truly,

THE DAYTON METAL PRODUCTS CO.,

MH. *Dr. H. B. Millhoff,* Clinician.

THE EMPORIUM, San Francisco, say:

Our Clinic is open daily from 9 to 12 and we handle on an average, 200

cases each month. We find that our employees are very eager to take advantage of the opportunity of having good work done, with the least expenditure of time and effort.

It certainly ranks with medicine and surgery as a welfare feature and we find that the two branches work splendidly together. We have arranged to have all appointments made during store time without any deduction for the time lost, and we are confident that our employees are not abusing this privilege, but are grateful not only for the temporary relief but for the permanent treatment which our dentist gives.

Yours very truly,

THE EMPORIUM,

Miss Leslie Wilde,

LW:EHT. Assistant Welfare Director.

KABO CORSET CO., Chicago, say:

We are pleased to state we consider dentistry in factories as of more benefit than either medicine or surgery. The

results of dentistry in our factory have in many ways exceeded our expectations.

Dentistry in our factory has saved our employees, as well as ourselves, over 2,000 hours in the past six months, time which would have been counted as lost working time, as well as protecting said employees from the clutches of unscrupulous advertisers and incompetent practitioners. It has increased production in proportion to working hours saved.

The preventative features of dentistry are not apparent to everyone, such as medicine and surgery is, but it is these preventative features which lead us to express the opinion that dentistry exceeds in benefit and importance to either medicine or surgery.

We have one instance in which we are confident a valuable employee was saved from insanity and a great many cases where pyorrhea was prevented, thereby saving the employee and ourselves much valuable time for work that would have eventually been lost.

We do not hesitate in saying that we consider dentistry, and especially preventative dentistry, as of equal import-

ance to medicine and surgery as welfare features in any corporation.

Yours very truly,
KABO CORSET COMPANY,
By *Frederick H. Mill,*
Mgr. Ind. Serv. Dept.

LORD & TAYLOR, New York, say:

Our dental clinic is operated under the supervision of the Department of Instruction and Training. You may deduct from this that it is a part of the educational scheme. We compel an oral, as well as a physical examination, of all those entering our employ, for the purpose of doing preventative work. The clinic is still in an experimental stage and we are not prepared to give statistics.

Yours very truly,
ISABELLA BRANDOW,
Department of Instructions
and Training.

THE T. EATON CO., LIMITED, Toronto, say:

We find that the most apparent result of dentistry in our establishment is the

emergency work which usually retains the individual at work who would otherwise have to have treatment outside and thereby lose from an hour or two, to half a day, or perhaps longer.

The work of our dentist is confined to giving relief in cases of toothache, giving advice, making examinations, charts, and when necessary, making X-Ray plates for employees to take to their own dentist, and the cleaning of teeth.

We consider that it increases efficiency inasmuch as an improved physical condition is bound to have this effect.

It has been of undoubted benefit to numbers of our employees, whose appreciation is evidenced by the numbers who take advantage of it.

Yours truly,

THE T. EATON CO., LIMITED,

R. Per *P. L. Reid.*

THE FORD MOTOR CO., Detroit, say:

Will state that the dental work done at this plant so far has been very limited. We have had one dentist for the past year who devotes his time exclusively to

dental work called for through injuries received by employees while at work, and to the inspection given to employees who come under our observation requiring dental attention.

It is impossible to definitely estimate the good done by this department, but to date we have no cause to regret the installation of the dental department, and contemplate increasing its scope in the future.

Respectfully,

J. E. MEAD,

JEM:HER. Chief Surgeon.

H. J. HEINZ Co., Pittsburg, say:

We can not give specific answers to your questions, because none of our welfare features was ever undertaken with the conscious purpose of improving our output or our profits. When we add any new feature for the benefit of employees, the determining factor is whether the employees will be interested and will take advantage. Consequently, we have never figured the dollars and cents value of

our Dental Department, or made any observation as to reduction of lost time.

The department is in charge of a graduate, experienced dentist, who does all sorts of dental work except bridgework. This work is done on the Company's time and at the Company's expense. We do feel, however, that more important than dental surgery is instruction in oral hygiene, and so our man always teaches his patients the use of the toothbrush and of dentifrices. This element of the work extends beyond the factory, for the employees carry into their homes and to the neighborhood the gospel of the toothbrush.

Yours very truly,

H. J. HEINZ COMPANY,

CFO:M By *C. F. Ohliger.*

THE NARROW FABRIC CO., Reading, say:

It is, of course, exceedingly difficult to measure the benefits derived from a department of this kind. However, we do know that we are experiencing a gradual and consistent increase in the personal efficiency of our employees, in the

decrease in illness, absenteeism, and other evils which decrease production.

In most instances, we have arranged for a regular semi-annual examination of the teeth of our employees. In this way the cavities are discovered before they have progressed very far. Inasmuch as this results, of course, in the preservation of the natural teeth, the beneficial effects in the personal health and efficiency of the employee inevitably follow.

We can say, without reservation, that the results fully equal our expectations; that it has reduced the number of hours lost through illness, and has, consequently, increased to that extent, the output of the mill. While, of course, dentistry is not quite as vitally needed to take care of accident cases or persons suffering from acute illnesses, nevertheless, we believe that in the long run, preventative dentistry is as important as medicine, and that it frequently prevents the necessity of resorting to the latter.

Respectfully,

THE NARROW FABRIC COMPANY,

JEK:EVF *J. E. Kissinger.*

THE NATIONAL CASH REGISTER Co., Dayton, say:

We realize that it has been of material benefit to those employees who have received treatment, and without a doubt is as necessary as the medical treatment.

Yours truly,

W. A. PEARSON,

RNH:CW Welfare Dept.

D. H. HOLMES Co., LTD., New Orleans, say:

Our dentist, Dr. J. S. Hull, spends two hours, from 8:30 to 10:30 a. m., with us. Every employee knows that he or she is welcome to dental service. However, it is the duty of the welfare secretary to see that attention is given to the teeth whether the store dentist is used or not, and to urge the employees to keep their appointments with the dentist.

Even at the beginning the response on the part of the employees was gratifying, but it was necessary to urge in many cases that the appointment be kept. We

do not insist that our dentist be used, but we do insist that care be taken of the teeth.

Our reports show that 72 per cent. of our employees make use of our dentist. Most of the work has been general filling and treatment. The dentist found many bad cases of neglect, but on the whole we were surprised at the prompt response which met our dental offer. The equipping of our dental office was our greatest expense.

We pay for all materials used and we find that we are more than repaid. We consider that most diseases are enhanced, if not produced, by bad teeth. Our general health has improved and we lay a great part of this improvement at the door of the dentist's office.

The instructing in dental hygiene and the advice about toothbrushes, etc., is left entirely to the dentist, although throughout the year at least three lectures on the teeth have been given for the benefit of all the employees in the store.

Our dentist's report for the last six months is most gratifying and shows that the teeth of a large per cent. of our nine

hundred employees are being examined and properly attended to semi-annually.

We are very happy to tell you of this work.

Very truly yours,
D. H. Holmes Co., Ltd.
Per *Lois Janvier*,
LJ:AD. Welfare Secretary.

Babson's Statistical Organization says:

Referring to your favor of the 28th, I would say that we have now had a dental clinic for about a year. It has fully met with our expectations. It is impossible to express any results in specific terms, but from the surprisingly large number of instances where unhealthy conditions which required correction existed when the clinic was first started, we are thoroughly convinced that dental hygiene is worth while.

We have about sixty employes who attend the clinic and have their teeth cleaned by a trained dental hygienist about once every month or six weeks.

As a means of protection and conservation, we feel that the work is invaluable. We are very enthusiastic over it and can not too strongly urge its general adoption.

Yours very truly,

LEROY D. PEAVEY,

Vice-President.

LDP :PSS.

The fire insurance business has recognized the value of periodical inspection in the reduction of fires. This has increased the insurance business and reduced the number of fires, and reduced the liability to fires. Instead of allowing the fire conditions to run down, producing greater and greater liability of fire and consequent increase of rate for carrying the risk, the companies make at their periodical examin-

ation of premises recommendations of improvements and clean-up that will reduce the fire risk; also the fire liability; also all new building has to conform to certain requirements for fire proofing. The insurance companies have realized that their work in reimbursing fire losses on insured property, also consists in preventing fires as far as is possible. Welfare work is very similar. Instead of waiting to repair the damage which certain conditions are gradually bringing about, modern welfare workers realize the value of preventing the damage before it comes and of intercepting the process.

As a brief summary of the dental service plan from which the above-mentioned companies are deriving such good results, let me conclude by outlining their system. Dental troubles fall into a class that can be readily prevented if caught in time, but are sure to accrue if not detected. Dental prevention consists of having the dentist examine each patient periodically, about twice a year, and note on a chart the condition of each tooth, directing the patients to their family dentist for needed work, if any, and checking the work when it is done. That is, seeing that the work is done. The dentist does first aid work, relieves toothache, performs treatment that would re-

quire numerous trips to the family dentist and consequent loss of operative time, prevents excuses for toothache. There are many systemic conditions in the duration of which operatives lack pep, which are due to conditions of the teeth. As operatives are not aware of this cause, their dentist is not ordinarily brought in to consultation until too late. The industrial plan of having the industrial clinician call in the patient as a welfare feature of the establishment has made it possible to correct these systemic conditions before doing great damage, and the result has been greater regularity in attendance, better health, greater number of operating hours given to

employment. As most companies have adopted dentistry from an educational standpoint, they have not kept data on percentages of increase derived from that source, but you can see from the above expressions in their letters what their views are after use of the system. They class the results as intangible because what Preventative Dentistry prevents, never happens. It is like the fire that is prevented by certain recommendations and precautions, the prevented loss of which is impossible to estimate. The only difference is that in Preventative Dentistry, the thing at stake is health and efficiency.

Dentistry in the factory is placing at the disposal of the

operatives information and experience of the dental profession collected over the past fifty years. Of course there are things about it that the patient would not know, but the welfare department offers it gratis with the assurance that it is the right thing to do, knowing as it does, the benefits the operatives will derive from it. Corporation dentistry is a growing subject, and after reflecting what might have been if you yourself have lost some teeth which some prevention would have saved, the subject will take hold and leave you convinced that it is a good thing. Preventative Dentistry produces industrial health.

TOOTH TROUBLES AND THEIR RELATION TO SYSTEMIC TROUBLES

Value of Dental Service

The mouth is one of the three points at which systemic disease has its inception. The other two are the tonsils and the nasal cavity. In considering the decay of a tooth or the abscess at the base of a devitalized tooth or the pyorrhea condition of the gums, the laity lose sight of the intimate relationship of these conditions to other parts of the body. This is due to the lack of public information on this subject and also to the painless or relatively painless

condition of the teeth and gums, when in this condition, in contrast to the pain and inconvenience experienced in other parts of the body during the time the exciting cause is allowed to run undetected.

Dr. Duke, of Kansas City, Missouri, has made a long series of clinical observations on this subject, and reports presence of streptococci bacteria in the blood of people having abscessed teeth. These bacteria affect the heart and are known to be the bacteria of joint inflammation—rheumatism. Physicians have recognized that these same conditions are brought on by septic formation in the tonsils. The tonsils have

had their share of investigation, and the operation of removal of the tonsils has become a necessary and popular one wherever the tonsils can not be made normal by treatment. The tonsils have also been found to be a cause of deafness. Likewise the tooth poison from the abscess going directly into the blood produces deafness, and in some cases defective eyesight. The streptococci take up their work where the patient is weakest, or in some part that is below normal at the time the streptococci get into the blood stream from the tooth abscess. The liver is another point of attack. So there are quite a number of systemic organs that are

directly affected by the poison of pus from the tooth abscess.

Dr. Hartzell, of Minneapolis, Minnesota, has long been an original investigator of the phenomena of Systemic Disorders Due to Defective Mouth Conditions. On account of his ability and inclination in following up this subject he was given the task of reporting on this subject for the Research Branch of the American Dental Association. Dr. Hartzell was the first American doctor and dentist (he is both) to show the connection between the abscessed tooth and rheumatism. He has made complete explanation of this and also reports, as does Dr. Duke, that the follow-

ing systemic diseases, rheumatism, arthritis, neuritis, iritis and other eye inflammations, vegetative endocarditis, myocarditis, peritonitis, meningitis, gastric and duodenal ulcer, pancreatitis, pneumonia, pleurisy, etc., are often of streptococcic origin due to direct infection from chronic points of infection (foci) as pyorrhea and abscessed teeth.

Dr. Hoff, of Ann Arbor, Michigan, reports that it has long been supposed that rheumatism was the result of infection, but nothing definite as to the source of the infection was clearly made out until recent years. As most internal infections have of late been connected in some way with

the nose, mouth and throat, much experimentation has resulted in tracing these infections directly to the tonsils and teeth. At first it was thought that the infection was taken into the system through the stomach and alimentary canal, from open sores in the tonsils, and suppurating gums, alveolar abscesses, etc. But, as all such infection would be subjected to the destructive influence, as the gastric and intestinal juices before absorption, it does not seem probable that there could be enough of the active virus absorbed through this means to account for the exterior disturbances often encountered. At the present time it is believed that

so far as the teeth and tonsils are at fault the infectious virus is absorbed directly from the tissues by the absorbent vessels and is carried through the lymph and blood vessels to the joints and muscle tissues where it is deposited or finds favorable conditions for development, and so local points of disease are established in various tissues throughout the body where conditions favor development of these micro-organisms which cause this particular disease. It is usual to find rheumatism affections in the joints and muscle tissues, which become pathologic, that is painful, or even in some instances abscessed. If it should locate for

instance, as it frequently does, in the heart muscle, it becomes a most serious affection and may be fatal in a short time; or in some other tissue not so highly specialized, it may assume chronic form and only annoy without fatal results.

Dr. Goadby, of England, in 1912, reported his observations on Oral Sepsis, and his findings were the same as those already mentioned. The pus in the abscess at the root of a tooth is pressed by force of the jaw pressure in eating and gains entry into the blood by veins and arteries that surround the pus sack. At every mealtime this occurs similar to a hypodermic of streptococci three

times a day. This process goes on unthought of by the patient. The rheumatism, the low pulse, low blood count, headache, are doctored for the malady, not for the removal of the cause, unless the physician has the patient consult the dentist. In the case of a blind abscess under a filled devitalized tooth or teeth an X-Ray would disclose the abscess. In pyorrhea conditions the spongy gums and pus pockets would be observable to the eye. The ingress into the blood direct from tooth abscess of such regular amounts of streptococcus and staphylococcus bacteria lower the value of the blood, cause it to be less vital, and the heart becomes

weaker and altered in action, taking the pep out of the patient. In severe cases vegetative endocarditis takes place. The picture of this condition of the heart looks like cobwebs stretched all across every way over the valves.

Dr. Barber, of Chicago, Illinois, has written at length upon the value of good teeth as the necessary requisite for good health through good digestion. Many people by loss of teeth, through decay and extraction, have not enough teeth to properly masticate the required food. In some cases the articulation of the teeth has changed, so that occluding teeth do not actually touch each other in biting. This allows the

food to go to the stomach in an indigestible form and makes digestion incomplete, causing indigestion. This brings up the case of Horace Fletcher, a member of the American Association for the Advancement of Science, who on account of indigestion was at fifty given up to die. He went to his dentist and was advised to have his teeth regulated so he could properly masticate the food and obtain one hundred per cent. digestion. With this done he paid particular mental attention to his eating, seeing to it that he did not swallow the food until he had thoroughly chewed it. He wrote some about this subject also and the newspapers took it up, and

this publicity resulted in the expression "Fletcherize." Mr. Fletcher at last reports was over seventy.*

The foregoing points very plainly to the value of Preventative Dentistry, and as already explained elsewhere to do this it is necessary to call the patient periodically and perform the dental prophylaxis. Greater public education is needed on the value of this work. It is so easy to prevent dental troubles, but after they have gained a start it takes an operation to stop them. Prevention through periodical prophylaxis is the best system.

* He has since passed away while in war work in France.

THE POSSIBLE NEW LIFE POLICY

Life insurance performs a national service by providing for the families of insured persons after death of the insured, returning a lump sum amount in cash representing in various degrees the insured's earning power. On policies with health indemnity clauses there is a payment for the duration of the sickness depending upon the terms of the particular policy. These two operations of insurance companies do much toward keeping the mechanism of business turning, besides benefitting dependents of the insured.

The next step would seem to be to pay attention to the insured during life with an advisory and first-aid service pertaining to his health. Also to providing through the operations of the same service of an enlarged field for insurance by bringing the health of applicants up to the point of an insurance risk.

As my allotted subject is to point out the importance of Dentistry in this respect, I will mention the value of health service in localities where much insurance is already written or intended to be written. This service is of much value to the insured and indirectly to his dependents. Every medical clinic

of this kind would do well to have at least one unit of dental equipment and at least one dental clinician besides the attending physician and nurse.

At the present time the populace are only ten per cent. sold on the subject of Dentistry and much less per cent. sold on the subject of Preventive Dentistry leaving very great the possibilities to increase the health of the nation and to reduce the death rate through prevention of dental troubles, especially through the systemic disorders which arise in the teeth and gums as foci of infection. That is another way of stating that the people do not realize the intimate relationship

that exists between the teeth and the general human system. They do not realize how important a part of the human anatomy the teeth are. If it is understood that the four cylinders of the heart are in constant automatic operation and that one pair of valves take the venus blood from the system and drives it through the lungs, and the other pair take the then arterial blood from the lungs and drives it through the body system from which it returns to repeat the cycle, then it can be easily understood how blood circulating around abscessed teeth carries the infection at once to the heart and the next moment to the arms, fingers,

limbs, feet, intestinal regions, and head. Under the influence of bacteria in the blood from abscessed teeth and pyorrhea gums the heart is not normal and often excludes the applicant for insurance from a clean record on his heart to the extent that he is declined as a risk. This condition can be corrected by dental attention and upon a subsequent test of the heart the applicant could be accepted.

The dangerous systemic infection at an abscessed tooth or pyorrhea gums often is held back by the natural health of the patient until some fever reduces his resistance, at which time the infection gains headway, or heart-

way in this instance, in the blood, and complications set in. The regular list of bacterial infection diseases results from tooth infection such as arthritis, pneumonia, myocarditis, endocarditis, peritonitis, gastric ulcer, pancreatitis, pleurisy, nephritis, iritis, meningitis, rheumatism, also deafness and insanity.

A dollar spent in prevention saves large amounts in cure or relief. You have no doubt heard or read of persons contracting a cold or grip and the developments leading into one or more of the above catagories. The teeth play their proportional part in this infection the same as do the tonsils, throat, and nose. Dentistry is a

health profession, a highly developed specialist branch of medicine, and has an important field in the preservation of health.

The first-aid health service should comprise the kind of supervision that would enable the insured to live his natural term of life in which the organism naturally wears out, not permitting a part, such as a tooth, to wear out and through neglect to poison the whole system and cause the death.

Inasmuch as the mortality tables are compiled from actual death statistics and the load in the premium is based on the cost of operating insurance companies, it is possible by bringing

a larger number of applicants within the requirements of the insurance risk to greatly increase the number on whom insurance can be written without much increased cost of procuring this additional business.

Another idea is the tooth examination of the applicant for life insurance. The plan that seems best to the writer's mind is to have one or more dental clinicians in every locality just the same as you have one or more physicians in every locality. The dental clinician according to this plan would make a prophylaxis and tooth examination both instrumental and by X-ray of each applicant and render the

dental recommendations on a formal card. The applicant could then have his family dentist put his teeth in order according to the recommendations outlined by the insurance dental clinician and then return to the insurance dental clinician to have the work checked up. The card with the O. K. could then be turned in along with the medical examination card.

A popular opinion about the teeth is that not until a tooth aches is it time to go to the dentist. This is just inverse of the truth. It is then too late as the pain announces the arrival of the danger point, and in many cases only an operation can pre-

vent serious trouble. Periodical prophylaxis intercepts the process of decay and discovers the formation of pyorrhea and abscesses while they are still in a curable stage, without the accruing of systemic maladies or unnecessary loss of the serviceability of the teeth.

The payment of life insurance premiums by a policy holder is his financial prophylaxis, a prevention from leaving his dependents in want. Health prophylaxis is the next subject that should interest him. He should intercept the forces which are at work and which only announce their presence too late by pain. The fear and pain connected

with Dentistry are not the dentist's fault. By going to the dentist periodically all pain is avoided, health is maintained, and natural teeth are preserved for old age.

With health service alongside, life insurance would mean preservation of life, besides payment of an indemnity at death. It is possible to give a health service along with life insurance policies, or at least health directions at the writing of the insurance, applicable to the individual, that would materially lengthen the life of the insured. And it is possible by clinical first-aid health service and health restorative recommendations to greatly in-

crease the number of available life insurance risks.

Summarizing the foregoing, it is possible through Dentistry to increase the number of holders of life insurance policies and to lengthen the life of policies in force, and to reduce the claims on sick and debility clauses. It is besides evident that a clean tooth certificate from the dental clinician is very desirable, because so many contractable diseases are traceable to the teeth.

DENTISTRY IN THE HOSPITAL

Dental service is necessary along with medical service in healing systemic disease. Administration of certain drugs require previous dental attention and removal of dental foci of infection for safety.

In order to know all the conditions affecting a patient at the hospital, it is necessary not to leave out any of the tests, as such an omission may lead to an erroneous diagnosis. In quite a number of cases the neglect to examine the mouth and teeth, both instrumentally and by X-Ray, is decidedly incomplete diagnosis.

Hospitals in which the installation of dental equipment originally was made for care of fracture of the maxillary and practice of oral surgery, have recognized that there is more general use of the dental service than was originally expected. The relationship of the teeth to systemic diseases as foci of infection, or at least as relay posts from which the infection is increased, has so repeatedly been demonstrated that most physicians recognize it as a valuable element in their diagnosis. In the light of the present knowledge of this subject the examination of the mouth condition of the patient is valuable data in

determining the treatment of the patient while in the hospital. This examination is called odontalysis. Whether the odontalysis shows pyorrhea, alveolar abscess, blind abscess, impacted unerupted teeth or not, it becomes important information of conditions, as it tells whether the teeth can be counted in the treatment to follow, or eliminated from consideration. Besides oral surgery and examination for tooth foci of infection, dentistry in the hospital is very valuable for preparing maternity cases, as all unhealthful conditions of the teeth of prospective mothers should have immediate dental care and treatment. It is eminently best

for both the mother and the offspring that all conditions which lower the vitality and have such influence upon the purity of the blood be corrected to normal before confinement.

The care of children's teeth is a subject which also receives much attention in the hospitals using dental service. Non-attention to children's teeth is regretted by parents and relatives in after years, when it is a difficult matter to make corrections of irregularities which in childhood and youth could have been made very easily. This work has a direct bearing upon the child's health also, and can, when promptly attended to, have much

to do with the child's future health. It is a function of hospital dental service that should receive application to all children cases which come under the influence of the hospital authorities. In such cases the work is preventive dentistry, inasmuch as the proper correction and care in childhood prevents serious dental troubles and impaired health in adult life.

The treatment of cases in which the remedies prescribed are arsenic, iodides, mercury, phosphorus, requires dental attention, as the effects of the use of these drugs is to stir up latent infection. As the mouth condition of such patients

may respond to the action of these drugs complicating systemic conditions, dental care becomes necessary.

Difficult extractions under anesthesia is another facility which a Hospital Dental Clinic affords. One of the important features of the treatment of pulmonary tuberculosis is the filling of all tooth cavities and maintenance of oral hygiene. There are calls for many operations for impacted teeth or what might be called miscarriage of the teeth. Patients suffer very often, believing the trouble in other parts of the body, as the nervous system is deranged by pressure of the tooth on a nerve

in its endeavor to erupt. This is generally called a neuralgia, or in other words, a pain, which does not explain it at all. The Hospital Dental Clinician can generally locate the offending tooth by having an X-Ray picture taken, which will disclose the tooth below the gum in an inclined or horizontal position.

An important part of hospital dental work is the great opportunity for research work. Cases offered at a hospital in the dental department are different in some ways than those offered in a private dental practice. More oral surgery and malignant systemic cases come under hospital dental attention than come into a pri-

vate practice. Treatments, fillings, artificial teeth and bridgework are called for, but not so much as in private practice. The unusual cases which a general hospital receives offer great opportunities for dental observation and research work. This work, of course, is very interesting to dental clinicians.

During a recent visit to the Jewish Hospital in Cincinnati, where they have a dental clinic, the writer was shown the hospital card on which the tooth condition of all patients is recorded. All findings are recorded thereon and furnish data which very often help the hospital board, together with the records placed

on the same card by physicians and specialists in the hospital's other departments, in arriving at the correct diagnosis and subsequent relief and restoration of the patient to full health and usefulness. The supervisor, explained, it is not enough to place the patient on his feet, but to restore the patient to his or her normal self, if possible, is the aim of the hospital, and it takes an analysis from all departments to properly do it. Another work performed by the dental clinic at the Jewish Hospital is the care of children's teeth, the advantages of which all welfare authorities readily recognize. This work is part of the oral hygiene

movement which is so active in all parts of the United States.

Besides the hospital dental work above outlined, research work in dental pathology and dental bacteriology is carried on in connection with cases presenting at the hospital. This work has shown valuable results and has been of much benefit to the patients treated at the hospital.

A visit was also made at the Cincinnati General Hospital, where a tour of the dental department was made. Patients arriving at the hospital for diagnosis and treatment are taken to the dental clinic at the direction of the attending physician. If the patient is unable to

walk, a wheeled chair or a wheeled stretcher is used to convey the patient there. After the instrumental examination of the teeth, the dental clinician sends the patient to the X-Ray department for a complete dental roentgenographic examination. They take ten films, five upper and five lower, covering the complete mouth, using one of their large machines on a two and one-half spark gap. The developed films are returned to the dental department and together with the clinical report thereon sent to the attending physician with the dental recommendations for the case. The dental diagnosis, along with the attending physi-

cian's diagnosis of symptoms and other tests, such as urinalysis, bacteriological, etc., make up the case history, which is kept on an indexed chart or card. In all cases the clearing up of mouth conditions accelerates recovery from the systemic conditions. Part of every day is devoted to the care of children's teeth at the Cincinnati Hospital. Children from the city and neighborhood are brought to the hospital and given treatment. Care of their teeth is along preventive lines and correction of irregularities and dental advice to the parents. Children from five years up receive this attention

and learn the value of care of the teeth.

Oral surgery is performed for all cases coming to the hospital and receive immediate attention by the skilled operatives in the dental department.

Dentistry in the hospital has shown its value in so many ways and so many patients arriving at the hospital require dental care that the department is very much in demand.

THE ODONTALYSIS

One of the most valuable findings of the research department of the American Dental Society, is the relation of tooth troubles to systemic troubles. The benefit of this finding is important to humanity, as it points to the remedy for many ailments that have heretofore remained unexplained. The benefit to dentistry is that it demonstrates to the public the importance of care of the teeth. Whether the teeth are in themselves the origin of the trouble, which sometimes they are, or relay points, the bad condition of which augments a systemic condition originating some

other place, it remains a dominant fact that care of the teeth is necessary not only for prevention of disease, but for its cure. Hospitals where general analytical tests, such as blood test, temperature, breathing, urinalysis, Wasserman's, etc., have been the regular schedule for the majority of the patients, are beginning to add the "Odontalysis," meaning the test of the tooth condition. This is a new word we have coined to express this new hospital department work. Hospital attention to the teeth of patients reduces the time necessary for recovery from sickness. This item alone, in many cases, will reduce the otherwise longer

stay of the patient at the hospital for recovery. "Dentistry in the Hospital" and the allied subject, "Dentistry in the Factory," are making rapid progress toward popular appreciation of the value of "Care of the Teeth," to which the dental profession has untiringly given so many years of study and patient thought.

ITEMIZATION OF INSTRUMENTS, SUPPLIES AND EQUIPMENT USED IN INSTITUTIONAL AND INDUSTRIAL DENTAL CLINICS AND IN HOSPITAL INFIRMARIES.

Instruments and Supplies 1-Z

FIRST AID INSTRUMENTS AND PROPHYLAXIS SUPPLIES

Instruments and supplies "1-Z" together with any equipment "2-Y," "3-X," "4-W," "5-V," "6-U" or "7-T" make a complete First Aid Outfit.

Instruments

1 C. S. D. P. Scaler No. 1.
1 C. S. D. P. Scaler No. 5.
1 C. S. D. P. Scaler No. 6.
1 C. S. D. P. Scaler No. 9.
1 C. S. D. P. Scaler No. 11.
1 C. S. Chisel No. 48-L.
1 C. S. Scaler No. 2.
1 C. S. Scaler No. 13, Younger-Good.
1 C. S. Scaler No. 33.
1 C. S. Scaler No. 34.
1 C. S. Scaler, Tomkins, No. 11.
1 C. S. File, Tomkins No. 1.
1 C. S. Smith Prophylaxis File No. 13.
1 C. S. Smith Prophylaxis File No. 14.
14 C. S. Handles No. 10-A.

1 C. S. Explorer Point No. 17.
1 C. S. Explorer Point No. 6.
1 C. S. D. E. Handle No. 17.
1 Set L. H. Bates Scalers.
1 Pair Pliers No. 11.
1 Mouth Mirror.
1 Woodson D. E. Plastic Inst. No. 1.
1 Woodson D. E. Plastic Inst. No. 2.
1 Woodson D. E. Plastic Inst. No. 3.
1 Amalgam Carrier and Plugger No. 7.
1 Cement Spatula No. 36.
1 Hand Porte Polisher, Contra Angle.
1 Water Syringe, Moffatt.
1 Kuroris Cotton Carrier.
1 Alcohol Lamp.
1 Gum Lancet.
1 Mounted Arkansas Stone, in box.
1 Magic Napkin Holder.
1 Ribbon Saw.
1 Package Kerr Broaches, fine.
1 Package Kerr Broaches, extra fine.
1 Package Pulp Canal Cleaners.
1 Broach Holder.
1 Ivory Cotton Roll Clamp, Bicuspid.
1 Ivory Cotton Roll Clamp, Molar.
1 Pair Tooth Forceps No. 150, Incisor and Root, Upper.
1 Pair Tooth Forceps No. 151, Incisor and Root, Lower.
1 Pair Tooth Forceps No. 18-R, Upper Molar, Right Side.
1 Pair Tooth Forceps No. 18-L, Upper Molar, Left Side.
1 Pair Tooth Forceps No. 15, Lower Universal Molar.

1 Pair Tooth Forceps No. 213, Incisor and Cuspid, Upper.
1 Pair Tooth Forceps No. 210, Upper Third Molar.
1 Pair Tooth Forceps No. 222, Lower Third Molar.
1 Chip Blower.
1 Abscess Syringe with Platinum Point.
1 Hypodermic Syringe, Tag Record complete with Needles and Attachments.
1 Contra Angle "U" attachment for Doriot No. 3.
1 Gross S. S. W. Asst. No. 2 Burs.
6 Huey Mandrels.
1 Porte Polisher Mandrel No. 307.
1 Cement Slab No. 8.

Supplies

1 Box Prophylaxo Tablets.
1 Bottle Taxi.
1 Box Burlew Polishers, Asst.
1 Box Mounted Wheel Brushes.
1 Box Mounted Cup Brushes.
1 Box Tooth Polishing Brushes for Porte Polishers.
6 Mounted Carbo Points.
1 Box Wood Points for Hand Porte Polisher.
1 Lb. Pumice.
1 Box Temporary Stopping, Asst.
1 Oz. Sterling Alloy.
¼ Lb. Cone Mercury, Sacco.
1 Box Caulk Petroid Cement.
1 Box C. & B. Cement.

1 Box 100 Absorbent Cotton Rolls, 6-in., Asst.
1 Box 50 Aseptic Dental Napkins, J. & J. No. 2, 6x6.
1 Small box Absorbent J. & J. Cotton.
1 J. & J. Waste Receiver and Cartons.
1 Cotton Holder No. 1.
1 Spool 150 yds. Waxed Floss Silk, J. &. J.
1 Oz. Waites Anesthetic, without Cocaine.
1 Tube Procaine (Novocaine) Tablets.
1 Tube Salt (Ringer) Tablets.
1 Dissolving Cup 3cc Pyrex Glass.
1 Dappan Glass Cup.
1 Bottle Peroxide Hydrogen.
1 Apron for Patient, Oiled Silk.
1 Miniature Bunsen Burner and Tubing.
1 Box Finishing Strips, Asst.
6 Boxes Polishing Disks, Asst.
1 Box Abscess Remedy and Root Canal Filler.
1 Box Gutta-percha Points.
1 Box J. & J. Absorbent Cotton Points.
1 Package Orange Wood.
1 Box Carmi Lustro Tape.
1 Bottle Phenol 95%, Dental Medicine.
1 Bottle Eugenol, Dental Medicine.
1 Bottle Tricresol and Formalin, Dental Medicine.
1 Bottle Black's Mixture, Dental Medicine.
1 Bottle Campho Phenique, Dental Medicine.
1 Bottle Trichloracetic Acid, Dental Medicine.
1 Bottle Tincture Aconite, Iodine and Chloroform.

1 Bottle Tricresol.
1 Bottle Tincture Calendula.

EQUIPMENT 2-Y

1 Harvard Peerless Chair.
1 Electro Dental Wall Type Engine, Folding Bracket Type, All-Cord, A. C. or D. C.
1 Doriot Handpiece and Wrist Joint.
1 Weber Cuspidor Pedestal, Type 55.
1 Harvard Cabinet No. 62-D.
1 Electro Dental Sterilizer, Onyx Base.
1 Glass Top Aseptic Table, 20x16.
1 Sacco Boss Wall Bracket.
1 Consolidated Vitrilite Top Aseptic.

EQUIPMENT 3-X

1 S. S. W. Equipment Combination "D," consisting of Diamond Chair S. S. W. All-Cord Electric Engine, Doriot Handpiece No. 3, D. C. or A. C., Current any Voltage, Bracket and Table Glass Top No. 3, Electric Light and Bracket, Spiral Flush Fountain Cuspidor, Air and Gas Connections.
1 American Cabinet No. 60-E.
1 Castle Sterilizer, Electric, No. 410-D.
1 Glass Top Aseptic White Enamel Table, 20x16.

EQUIPMENT 4-W

1 Ritter Ideal Columbia Chair.
1 Ritter Wall Type Folding Bracket, Engine Model "C," A. C. or D. C., All-Cord.
Doriot Handpiece No. 3.

1 Weber Cuspidor No. 55, with Attachment to Chair.
1 American Cabinet, Steel, No. 110.
1 Consolidated Sterling Bracket for Wall.
1 Cleve. Dent. Peerless Aseptic Vitrolite Top.
1 Castle Electric Sterilizer No. 410-D, on Separate Stand.
1 Aseptic Glass Top Table, 30x24.

EQUIPMENT 5-V

1 Harvard Peerless Dental Chair, Black Enamel.
1 Ritter Unit Equipment, consisting of Ritter Electric Engine A. C. All-Cord Type, Clark 65 Streamline Cuspidor, Bracket and Glass Top Table, Complete Switch Board of Appliances, Mahogany Finish or Black.
1 All Metal White Enamel Cabinet with Opal Glass Table Top.
1 Pelton & Crane Sterilizer.
1 Glass Top Stand, 20 x 16, Glass Top, 1 Glass Shelf, Metal Frame, White Enamel, with Rail.

EQUIPMENT 6-U

1 S. S. W. Diamond Chair.
1 S. S. W. Equipment Unit Stand No. 3, consisting of Spiral Flush Fountain Cuspidor, Electric Light and Electric Engine any Voltage D. C., and Doriot No. 3 Handpiece, Bracket and Bracket Table No. 3.

1 Lee Smith & Sons Co. Steel Cabinet No. 506.
1 Aseptic Glass Top Table.
1 Holmes Electric Sterilizer.
1 Sanican Receptacle.

EQUIPMENT 7-T

1 Ritter Ideal Dental Chair, Mahogany.
1 A. C. Clark & Co. "U" Pedestal Unit, consisting of Pedestal, A. C. Clark & Co. Double Bowl Streamline Cuspidor, Bracket and Table, Ritter Swivel Type Model "C" Electric Engine, All-Cord with Doriot Handpiece, Mahogany Finish.
1 American Cabinet No. 60-E, Mahogany.
1 Castle Sterilizer, Electric.
1 Sanitary Can.
1 Glass Top Table with Glass Shelf and Rail.

SUMMARY

OUTFIT 12-Y-Z—Supplies 1-Z; Equipment 2-Y.
OUTFIT 13-X-Z—Supplies 1-Z; Equipment 3-X.
OUTFIT 14-W-Z—Supplies 1-Z; Equipment 4-W.
OUTFIT 15-V-Z—Supplies 1-Z; Equipment 5-V.
OUTFIT 16-U-Z—Supplies 1-Z; Equipment 6-U.
OUTFIT 17-T-Z—Supplies 1-Z; Equipment 7-T.

The following corporations are operating dental clinics. This list shows several additions of important industries that have taken up industrial dentistry since our list published in February, 1919, number of the *Dental Register:*

Adamsville, Alabama—
Tennessee Coal & Iron Co., Wenonah Mines.
Tennessee Coal & Iron Co., Ishkooda Mines.

Birmingham, Alabama—
American Cast Iron Pipe Co.
Tennessee Coal & Iron Co.

Bessemer, Alabama—
Tennessee Coal & Iron Co.

Ensley, Alabama—
Tennessee Coal & Iron Co., Bayview Mines.

Fairfield, Alabama—
Tennessee Coal & Iron Co.

Johns, Alabama—
Tennessee Coal & Iron Co.

Davenport, California—
Santa Cruz Portland Cement Co.

Fresno, California—
California Associated Raisin Co.

Oakland, California—
The Alameda Co.

San Francisco, California—
The Emporium.

Denver, Colorado—
The Colorado Fuel & Iron Co.

Pueblo, Colorado—
The Colorado Fuel & Iron Co.

Trinidad, Colorado—
The Colorado Fuel & Iron Co.

Milford, Delaware—
The L. D. Caulk Co.

Wilmington, Delaware—
Dupont Powder Co.

New Haven, Connecticut—
Kolynos Co.

Chicago, Illinois—
Morris & Co.
Montgomery & Ward Co.
Armour & Co.
Chicago Telephone Co.
The Crane Co.
The Diamond Match Co.
Hart, Schaffner & Marx.
Kabo Corset Co.
Sears, Roebuck & Co.
The International Harvester Co.

Peoria, Illinois—
The Avery Co.

Indiana Harbor, Indiana—
The Inland Steel Co.

New Orleans, Louisiana—
D. H. Holmes Co.

South Brewer, Maine—
The Eastern Mfg. Co.

Boston, Massachusetts—
The Hood Rubber Co.
Filene Co. Operative Assn.

Chelsea, Massachusetts—
Forbes Lithographic Co.

East Watertown, Massachusetts—
Hood Rubber Co.

Florence, Massachusetts—
The Florence Mfg. Co.

Framingham, Massachusetts—
The Dennison Mfg. Co.

Southbridge, Massachusetts—
American Optical Co.

Wellesley Hills, Massachusetts—
Babson Statistical Organization.

Detroit, Michigan—
The Ford Motor Car Co.

Minneapolis, Minnesota—
The Washburn-Crosby Co.
The Northwestern Knitting Co.

Kansas City, Missouri—
Jones Store Co.

St. Louis, Missouri—
National Lamp Works.

Concord, New Hampshire—
Union District Dental Clinic.

Manchester, New Hampshire—
The Amoskeag Co.

Nashua, New Hampshire—
Nashua City Dental Clinic.
Maginnis Cotton Mills.

Jersey City, New Jersey—
Colgate & Co.

Hurley, New Mexico—
China Copper Co.

Brooklyn, New York—
Schrader & Sons.

Buffalo, New York—
Larkin Co.

McGregor, New York—
Metropolitan Life Insurance Co.

New York, New York—
Bloomingdale Bros.
The International Garment Workers' Dress and Waist Makers' Union.
Lord & Taylor.
Macy Mutual Aid Assn.
James McCreery.
Metropolitan Life Insurance Co.
New York Telephone Co.
Wanamaker Store.

Niagara Falls, New York—
Oldsbury Electro Chem. Co.

Rochester, New York—
The Bousch & Lomb Co.

Akron, Ohio—
The Firestone Tire & Rubber Co.
The B. F. Goodrich Co.
National Lamp Works.

Cincinnati, Ohio—
The Cincinnati Milling Machine Co.
The R. K. LeBlond Machine Tool Co.

Cleveland, Ohio—
The Bailey Co.
The Joseph & Feiss Co.
The Kaynee Co.
National Lamp Works.
R. & E. Blouse Co.

Dayton, Ohio—
Dayton Electric Laboratories Co.
The Dayton-Wright Airplane Co.
The Dayton Metal Products Co.
The National Cash Register Co.

Hamilton, Ohio—
The Hooven, Owens, Rentschler Co.

Warren, Ohio—
National Lamp Works.

Youngstown, Ohio—
National Lamp Works.

Erie, Pennsylvania—
Erie Forge Co.

Philadelphia, Pennsylvania—
John Wanamaker.
The S. S. White Dental Mfg. Co.

Pittsburg, Pennsylvania—
The Armstrong Cork Co.
The H. J. Heinz Co.
Lee S. Smith & Son Co.

Reading, Pennsylvania—
Berkshire Knitting Mills.

Bristol, Rhode Island—
National Indian Rubber Co.

Bosevaine, Virginia—
Pocahontas Fuel Co.

Itman, West Virginia—
Pocahontas Fuel Co.

Jenkinjones, West Virginia—
Pocahontas Fuel Co.

Maybeury, West Virginia—
Pocahontas Fuel Co.

War, West Virginia—
Williams Pocahontas Coal Co.

Appleton, Wisconsin—
Kimberly Clark Co.

Beloit, Wisconsin—
Fairbanks-Morse Co.

Kohler, Wisconsin—
Kohler Mfg. Co.

Neenah, Wisconsin—
Kimberley & Clark Paper Mills.

Niagara, Wisconsin—
Kimberley Clark Co.

Toronto, Canada—
T. Eaton Co., Ltd.

Modern Dentistry

The following book review appeared in *The Investment Weekly and Business Digest*, New York, December, 1918. This recognition of "Modern Dentistry for the Laity and Industrial Dentistry for the Corporation" is very much appreciated. This is a review of the first edition.

"Modern Dentistry for the Laity and Industrial Dentistry for the Corporation." By Alfred Armstrong Crocker, 6 pp., 16mo. Dental Register, Cincinnati, Ohio.

Advocates a plan for the installation by corporations of a dental clinic. The corporation dentist keeps a chart of the teeth of each employe, and whenever he finds a decayed or abscessed tooth calls it to the attention of the employe's dentist. Many illnesses are directly or indirectly due to bad condition of the teeth, so that dentistry is a real aid in the manufacturer's problem. This system has been in use in the Army and Navy, in nitrate plants and the airship corporations and has been adopted by sixty-three large corporations in different parts of the country.

The following is also a review of the first edition, which appeared in the January, 1919, number of *The American*

Jeweler, Chicago, Ill. This notice of "Modern Dentistry for the Laity and Industrial Dentistry for the Corporation" helps show the diversified lines of thought to which this subject appeals.

"Modern Dentistry for the Laity and Industrial Dentistry for the Incorporation," by Alfred Armstrong Crocker. Published by the *Dental Register*, Cincinnati, Ohio.

Industrial dentistry, like industrial optics, is a new phase of welfare work, particularly of large corporations and requires more or less publicity to bring its merits to the attention of those who are chiefly interested. The subject is covered by about sixty pages, five of which contain a list of the corporations who are operating dental clinics at their factories. The subject is treated in seven short chapters, giving various aspects of dentistry as a factor in industrial corporations and the reasons for corporation dentistry.

The following review was written by *The Modern Hospital*, Chicago, and published in their Book Review Department. It is a review of the second edition of this book. This complimentary assist-

ance in the popularization of the benefits derived from preventive dentistry is greatly appreciated.

"Modern Dentistry for the Laity and Industrial Dentistry for the Corporation." By Alfred A. Crocker, Cincinnati, Ohio.*

This little volume consists of a number of short essays on dentistry and its application to individual welfare and industrial efficiency. The author deals with the importance of proper care of the teeth in relation to the health of every individual; he also lays stress on the necessity of corporations realizing what a large part the teeth play in the general health of their employes. The idea to follow in regard to your teeth, he says, is the prevention of decay, and this requires visits to the dentist at least twice a year. In order to insure the proper care of teeth on the part of employes, the best plan for the corporation to follow is to install a dental clinic, similar to the medical department now almost indispensable in large corporations. The function of the dental clinic is not to treat the teeth of the employes, but simply to examine them and recommend the treatment necessary so that the patient may go to his family dentist immediately. Many companies do not absolutely require this examination twice a year, but find that the employes are glad of the opportunity and willing to take advantage of it. As for

* The Sam'l A. Crocker Co., Cincinnati, Ohio, 1919.

the value of this plan to the corporation, "corporations installing dental service for employes are taking a step for economy in manufacturing, conservancy of manufacturing hours, and maintenance of health of operatives." The importance of proper care of the teeth has been emphasized by preventive dentistry and oral hygiene during the war, since the United States Government required every recruit for the army or navy aviation corps to have his teeth put in good prophylactic condition. The last essay, "Tooth Troubles," gives an idea of "what prevention prevents." A list of actual requirements for establishing clinics concludes the book. The essays, which appeared originally in various magazines, are written in such a way that the average person can easily and quickly read them. The few technical terms which occur are defined. The book is dedicated to "the dental profession, whose avowed purpose is the prevention of decay and preservation of the teeth of the human race."

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